O.D. Page, P.E. *Professional Engineers & Affiliates*
7536 Spring Lake Drive, Bethesda, MD 20817 (301) 469-6688

October 26, 1994

EX PARTE OR LATE FILED

Ms. Donna Searcy
Secretary
The Federal Communications Commission
1919 M Street, NW
Washington, DC 20554

DOCKET FILE COPY ORIGINAL

Subject: Docket 93-7. Interface Problems Between Cable Companies, Subscribers, and Suppliers of Interfacing-Consumer Equipment (Ex Parte)

Dear Ms. Searcy:

Enclosed is a copy of a letter which has been sent to all of the Commissioners having to do with Docket 93-7 Equipment Compatability.

Very truly yours,

O. D. Page, P.E.

ODP/pg

encs. Letter to Commissioners
Curriculim Vitae

No. of Copies rec'd 1
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O.D. Page, P.E. *Professional Engineers & Affiliates*
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October 26, 1994

The Honorable Sherrie P. Marshall
The Federal Communications Commission
1919 M Street, NW
Washington, DC 20554

Subject: Docket 93-7. Interface Problems Between Cable Companies, Subscribers, and Suppliers of Interfacing-Consumer Equipment (Ex Parte)

Dear Commissioner Marshall:

I observe again that the referenced matter has not been clarified; is unlikely to be clarified between the two parties which have been assigned the task (EIA and NCTA); and probably can't be expected to be so resolved (there are just too many special interests).

With all due respect to your competent FCC staff, I know there will be a serious problem in connection with the FCC itself trying to develop a set of interface rules (in fact, it just won't happen). These comments come from *26 years* in the CATV Industry—all aspects. See attached *curriculum vitae*.

I recommend again, as I have recommended many times over, that we must **GET THE CABLE OPERATORS' EQUIPMENT OUT OF THE HOME**. There is no need and there should be no desire for the Cable Operator or anyone else to come into the subscribers' homes. The Telephone Companies don't do it now, but on the other hand they fought this viciously for 20 years in something called the Carterfone Case. I hope it doesn't take us 20 years to understand what is going on here and to decide what to do about it.

In its various Rulings and Reports, the FCC has made it clear that it would much prefer that the Industry develop a system which requires signals to enter the house in the clear and not require any kind of control boxes or conversion boxes or anything else in the home that are owned by the Cable Operator (except leased equipment). The Cable Industry doesn't like this situation and has been posing all sorts of "technical questions" having to do with inter-operability. This again is another manifestation of the Carterfone Act, and those of us who do not read history must relive it (with all due respect to Mr. George Santayana). *So let's do it!*

I briefly address the current CATV Industry objections to the business of mounting all processing, encoding, and digitizing equipment off-premises:

1. Radiation (or as we call it, "Radio Frequency Interference"). This is absolutely a non-problem as was the straw-man problem posed in a similar fashion by the Telephone Companies. These Companies indicated all sorts of serious repercussions if they couldn't control the exact design and manufacture of equipment inside the home. It just wasn't true. It isn't true in the case of Cable Systems either. The Telephone Company now offers a contract to telephone users to maintain their in-home wiring *(not their equipment)*, or otherwise will refuse to enter the home to do any repairs. Fortunately there are a very large number of small companies who have benefitted from the Carterfone ruling and are available to perform such repairs and installation, competently and inexpensively.

Radiation is a non-problem because if it is determined that radiation is coming from the home the Cable Operator need only advise the subscriber that his equipment must be repaired within a to-be-determined time, and if necessary he must be disconnected. In the Industry, radiation from the home is usually found to develop from a loose fitting or perhaps an unauthorized piece of equipment. These things are easy to deal with and there is no reason for the Cable Operator to go in and perform major repairs.

2. Signal Security. This one is the biggest straw man and best red herring of all, in all probability. There is no reason why a Cable Operator cannot process signals off-premises in such a way that the signals can be reasonably well protected from theft and can be provided to subscribers in the clear, probably *better* than control of *on-premises decoding*.

   Look at what is happening now. The Cable Operators are claiming some **$6 billion in cable theft** (probably overstated by a factor of 2, but the overstatement is irrelevant). The main reason for this is that the boxes which perform the signal protection are contained *within the home*. Given today's society's attitude about public property, it shouldn't surprise anyone that subscribers will take steps to make it possible to receive those signals coming into "their own private domain". It takes about a day or two of a competent technician's time to defeat almost any existing "security box" in the home.

   On the other hand, if these security devices are moved off of the home owner's property, don't you think it would be logical that the home owner would be *very reluctant* to go onto *somebody else's property* to make modifications in order to steal the signal? Of course not. The telephone situation is a good example.

3. "Off Premises". There is now available a system referred to generically as "Off-Premises" which manifests itself in a *pre-production design* by Scientific Atlanta as "Interdict" and by Philips as "Mask". I now understand that at least one system is using this technique, and of course it is going to have to be again classified as an experiment using subscribers as the guinea pigs. Both of these systems process signals in such a way that all signals that do come into the home are in the clear (not scrambled).

   The equipment to perform this is enclosed in a very hefty off-premises aluminum "coffin", and I assure you that even a good technician would have trouble getting access to these boxes without risk of being arrested for tampering with somebody else's equipment and/or risking injury. Certainly with no hope of not being obvious about it.

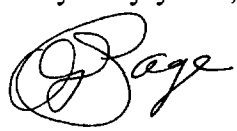
   I recommend that the FCC make it its business to inspect samples of these boxes, and will be delighted to volunteer to provide such a box and a presentation—by the manufacture(s) or myself—to explain why these boxes are more secure than the present systems. The box itself is connected into aluminum-sheath cable from the Distribution System which is like aluminum *piping*. The vulnerable point would be the drops that come from the box which of course carry signals to the home in the clear (not scrambled). These can be protected from tampering at relatively little cost—in other words, made sufficiently difficult such as to deter most efforts at signal theft. Such devices are available and can be improved at low cost.

4. "**Recommendation**" The recommendation is quite simple: the FCC should appoint a TASK FORCE or TECHNICAL COMMITTEE as it has done in the past with considerable success, consisting not only of the interested parties (manufacturers and Cable Companies) but especially *other parties* more numerous than those representing special interests in the Cable Industry. There should be *lots of public interest* involved in this proceeding. The Committee should be funded in such a way as to be able to develop and build prototype units and perform a *minimum amount of testing* to prove the design (such as at least one year-round test project)—and not to overlook the impending arrival of in-home digital signals and the over-touted "Telecommunications Highway".

   The Cable Industry has already funded a group called Cable Labs, with such an excess of funding as to be able to provide perhaps a integer-multiple (such as 3 or 4) times the amount of money that it would take to complete the development of this equipment that has already been placed on the market by two other manufacturers.

What could be more obvious and what could be more simple?

Very truly yours,



O. D. Page, P.E.

ODP/pg

Attachments: O.D. Page Curriculum Vitae
Trade Magazine Articles (2)

cc: Ms. Donna Searcy
NATOA
NCTA
EIA (CEG)

Engineers Debate: Does Cable Need Standards?

By LESLIE ELLIS

An ever-shrinking list of cable engineers spent the better part of a day haggling over an ever-growing list of digital standards groups, according to participants at a recent NCTA Engineering Committee gathering.

Digital video standards, proponents say, will enable future digital equipment to link protocol arms and span the nation in a seamlessly interconnected web.

Naysayers wonder about premium service security and being locked out of as-yet-unforeseen "killer applications."

At the National Cable Television Association Engineering Committee meeting, however, a more elementary question arose: Which of the many groups should be supported with people and resources?

"One of the increasingly apparent trends is that there are more and more committees," said Joe Van Loan, senior vice president of engineering for Cablevision Industries, and chairman of the Engineering Committee. "It seems that everyone who wants to have anything to do with new services into the home is forming a committee to establish standards."

Estimates of the number of digital standardization groups run from 20 to 100, cable engineers say. "At the same time, the number of cable engineers are dwindling, because of consolidations or pending consolidations," said Van Loan.

"In most cases, the groups that are working on standards simply don't talk to each other," said Ted Hartson, vice president of engineering for Post-Newsweek Cable. "The nice thing about standards is that there are so many to choose from."

As a result, the NCTA panel formed a subgroup charged with identifying cable's role in digital standards. At press time, a chairman had not yet been identified, according to Wendell Bailey, vice president of technology for the NCTA.

The first charge of the subcommittee? Ironically, it's to sift through the list of similarly minded groups — including the Institute of Electrical and Electronic Engineers (IEEE), Moving Pictures Experts Group (MPEG), Digital Audio Video Council (DAVIC), In-

See ENGINEERS, P. 25

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MCN 8/25/90 Page 3

Engineers Debate: Does Cable Need Standards?

Continued from page 3

teractive Multimedia Association (IMA), Multimedia Communications Forum, Video Electronics Standards Association (VESA), and others — and identify which best serve cable's needs.

"It sounds silly to establish a committee to look at which other committees to participate in," Van Loan said, "but given the resources we have, we have to use our time wisely."

"The part that's a bit depressing is how few cable operators are involved," said Walter Ciciora, an industry consultant best known for his committee work related to cable/consumer electronics compatibility. Ciciora said he has volunteered to participate in the new digital standards subcommittee. So has Graham Stubbs, a consultant representing TV/COM International on its North American Digital Group efforts for digital video standardization.

For the most part, engineers agree that standards for digital video compression, storage, modulation and interoperability are wise.

"I think standards are better for the public," said Charlie Cerino, director of engineering for Comcast Corp., who said part of his role as the Top 10 operator is to watch standardization efforts and make the right pick for Comcast.

"Cable has always been a technology pioneer, which means we've taken the arrows in our back" for stepping out first with technology that may differ widely in different operating environments, said Cerino.

"Because of that, we've gotten a black eye in many cases," said Cerino. "One of the things I'll be doing over the next year is concentrating on what the right digital standards are for Comcast."

> "My feeling is that there is strength in individuality."
>
> ***Joe Van Loan, senior vice president, engineering, Cablevision Industries, and chairman of the NCTA Engineering Committee***

Van Loan, however, is admittedly on the skeptical side. "We've built an industry around a lack of standards, especially with things like scrambling systems," Van Loan said. "My feeling is that there is strength in individuality."

At the two-day Engineering Committee meeting held at NCTA headquarters in Washington, D.C., engineers spent "most of an afternoon and the next morning" discussing standards, said Cerino, who said the length of the discussion precluded a report he was scheduled to give on Federal Communications Commission cumulative leakage index compliance.

Post-Newsweek's Harrison is also a confessed skeptic. "I'm not sure there can be a solidly secure system embedded in any standard," he said. "Signal security within digital standards is a huge issue. There is no simple answer."

What triggered the discussion was an overview of TV/COM's North American Digital Group, roughly modeled after the European digital video broadcast (DVB) and designed to provide an interoperable digital video platform for network operators.

Vendors including Scientific-Atlanta Inc. and Zenith Electronics Corp. also support uniform digital video standards, said Bailey.

Robert Luff, chief technology officer for S-A, called standards "an important agenda" for S-A because of a need to satisfy cable subscriber needs.

"This is another case where we must look beyond our customers to our customer's customers," said Luff.

"Without standards for equipment interoperability, we'll create confusion for cable subscribers. It's important that we avoid that."

And, said Zenith's vice president of technology market planning Vito Brugliera: "We have a very simplistic view. We think there should be digital standards." —MCN

GOVERNMENT

Nine Groups Send Compatibility Complaints to FCC

By LESLIE ELLIS

The Federal Communications Commission last week received nine separate filings related to consumer electronics/cable compatibility as part of its normal reply comment procedure. More filings, specific to the proposed decoder interface, were due Aug. 15.

Specifically, the FCC received documents from the Electronic Industries Association, Consumer Electronics Retailers Coalition (CERC), Consumer Federation of America, Home Recording Rights Coalition and Compaq Computer Corp.

On the cable side, the FCC received comments from the National Cable Television Association, General Instrument Corp., Cablevision Industries Inc., Time Warner Cable, Zenith Electronics Corp. and Hewlett Packard Corp.

Last week's flurry to get documents to Washington, D.C. follows earlier opposition filings to the FCC's report and order on compatibility issued in May.

The recent filings represent "the end of the pleading cycle," explained Wendell Bailey, vice president of science and technology for the NCTA.

The FCC may or may not accede to the wishes of the various interested parties, or does it have to comply with a specific response timeframe.

"Historically, we've seen things acted upon quickly, and we've seen other things sit for quite a while," Bailey said.

The pleas submitted varied widely. The EIA, speaking on behalf of the consumer electronics industry, urged the FCC to "reject petitions for reconsideration," citing the separation of security functions from other features in future decoder interface modules and restrictions on remote control infrared codes.

Fueling an already hot debate between cable and the consumer electronics industry over the demarcation line between cable services and television features, the EIA wrote: "If consumers can only obtain decoders that also include non-security features, the whole purpose of the decoder interface would be defeated, because non-security features would not be competitively provided."

However, Time Warner's filing argues that competition is "lessened, not increased" by prohibiting cable operators from incorporating non-security related features into the component terminal equipment used in the decoder interface.

Time Warner argued that a forced separation of security functions and other features translates into added cost, because more than one microprocessor would be needed.

"If the microprocessor has to be duplicated in order to provide on-screen display and forced tuning capabilities in a physically separate unit, the cost to the consumer would be significantly higher," Time Warner said in its filing.

CICIORA

The retailers coalition — perhaps envisioning retail riches from set-top box sales — thinks decoding functions used to make scrambled programming watchable should be separated not just from future decoder interfaces, but from future set-top boxes, as well.

In its filing, the CERC recommended a solution that requires "the same modularity in set-top boxes as the FCC has required in the decoder interface."

The decoder interface issues will make up the bulk of a joint NCTA/EIA engineering committee recommendation, due to the FCC Aug. 15.

At press time Wednesday, Walt Ciciora, chairman of the decoder interface subcommittee and an expert on the compatibility issues, wasn't sure whether the draft specification would be submitted in its entirety.

"We'll probably submit it with two holes," said Ciciora. "One is whether or not the specification is digital, analog or a hybrid of both. The other is the compatibility between the plug-in module and the consumer electronics product."

Also an issue in last week's filings: the infrared commands used in handheld remote controls. While the EIA and other consumer electronics groups want the FCC to stand firm on its decision to "freeze" cable's remote codes, cable's filings call the legislation unnecessary and costly.

"The FCC, for some reason, thinks that cable operators will capriciously change the infrared controls, in order to make obsolete the remotes purchased with TV sets and VCRs," said Ciciora.

"Economically, the argument makes little sense," said Ciciora. "The rental regulations on remotes are such that operators would never recoup the cost to change out set-tops [associated with cable remotes.]"

"It's not a danger," Ciciora said. "Freezing cable's infrared codes is a solution for a problem which doesn't exist, and the unintended consequences of legislation like this are economically severe."

For example, he said, such legislation means that operators who want to switch set-top brands will have to buy new boxes that recognize the infrared language of the scrapped boxes.

"That means suppliers have to have versions of the box which support all of the other manufacturers codes," said Ciciora. "So, if you're a Hewlett-Packard wanting to come in to cable with a set-top box, you have to include codes from General Instrument, Scientific-Atlanta, Zenith, Pioneer and everybody else."

Ciciora said he's discouraged by many of the filings. "As you read them, there's this tone to jump on cable; that it's all cable's fault. You could just as easily characterize it as the consumer electronics industry wanting to connect to cable, but not wanting to incur the cost to do so." —MCN

O.D. Page, P.E. *PROFESSIONAL ENGINEERS & CONSULTANTS*

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GENERAL QUALIFICATIONS:

Education:

BSEE, Oklahoma State University
SMEE, Massachusetts Institute of Technology
EMP (Executive Management Program), Penn State University
One-Year Business Internship with TRW, Inc.

Professional and Business Affiliations and Activities:

Registered Professional Engineer: Ohio; Maryland; Virginia; Florida.
Member of NATOA, NCTA, CATA, IEEE, EIA Technical Committees, FCC Cable Technical Advisory Committee (C-TAC), SCTE, SMPTE, Mensa
Former Chairman of EIA Broadband-Communications Section

Technical Papers and Publications:

"CATV Transmission System Design for 20-Year Life and Year-Round Stability."
"Dual Pulsed-Pilot-Carrier Automatic-Level Control for Temperature and Color Stability of CATV Transmission Systems."
"The Future of Integrated-Optics Techniques in Broadband Communications."
"Qualification and Qualifications of Technical People in the CATV Industry"--C-TAC Panel 6 Assignment for the FCC.

POSITIONS HELD:

Owner	Contracting Company: Design, Furnish, Install, Rebuild, and Maintain TV-Distribution CATV, MATV, Security, Intercom, Satellite-Receiving, Communications Systems.
Owner	Professional Engineering and Consulting Business.
General Manager	CATV Systems and Equipment, Top-50 Corporation.
Vice President	CATV Systems Operations.
Director, Engineering & Marketing	Radio Telemetry, Reconnaissance, Communications Equipment and Systems.

PROJECTS:

CATV Franchising and Regulatory Support.
Patent Litigation; Expert Testimony
Appraisal of CATV Systems.
Satellite-Receiving-Station Projects: Design, Furnish, Install, Maintain.
First VHF Solid-State Receiver / Predetection-Combiner System.
Contracting, Design, and Implementation of CATV Systems.
Design of Modular and Bi-Directional CATV Distribution-System Equipment.
Institutional Networks.
Theft-of-Services.
First Broadband-Circuit Solid-State Heat-Sink Packaging.
Application of MTBF (Mean Time Between Failures) in CATV Systems.
Optical Fibers in CATV.
Closed-Circuit-TV Systems for Navy Combat Control Center.
Airborne Closed-Circuit TV Fire Control System.
Missile Range Telemetry System
Automated TV-Rating System.

CATV EXPERIENCE:

Professional Engineers and Affiliates, 1974 - Present. Principal and Owner.

Municipal Franchising and Support: Including System Evaluation and Proof Testing; Institutional Network System Design Approval; Pre-Franchising / Renewal Evaluations; Studies; Franchising; Evaluation of Cable Operators for Franchise Renewal.
CATV Franchising: Provide technical support and/or prepare complete franchise applications, including capital-expenditure projections (system capital costs); cash-flow projections and proformas; services; full response to franchise requirements.
Perform Various Studies: (e.g. Optical Communications; FCC Filings; Technical Support; Frequency Allocations; FCC Compliance; Patent Litigation; Theft of Services; etc.)
Perform CATV-System Asset Appraisals -- More than 30 Systems in U.S., Puerto Rico.
Expert Testimony: Federal and State Courts

GTE Sylvania : General Manager, CATV Equipment and Systems Operations.

Entron, Inc: Vice President, CATV. Equipment System Construction; Systems Operations and Management

EMPLOYMENT HISTORY:

GTE-SYLVANIA, INC.
Product Manager, CATV,
General Manager, CATV Operations,
Directed Sylvania's entry into the CATV Business. Developed and Staffed the Organization; Completed Redesigns and Tooling of Product Line; Bid, Contracted and Performed Turnkey Installation of over 20 complete Operating CATV Systems for a total of more than 2,500 miles of Cable Distribution System. Moved the entire Operation from New York State to El Paso / Jaurez without loss of continuity, employees, or customers. Move paid out in less than two years.

ENTRON, INC.
Vice President
Developed new line of Modular CATV Distribution-System Equipment. Contracted, Designed, Installed, and Tested CATV Systems in Florida, Louisiana, and New York. Managed seven Operating CATV Systems in Pennsylvania, North Carolina, and Louisiana.

OTHER EXPERIENCE:

LOCAL TV-DISTRIBUTION SYSTEMS
OWNER, MASTERCOM
Satellite-Station, Security, and Communications Contracting Business -- successful since 1976.

TRW, Inc.
Engineering; Sales; Program Management;
Microwave Components, Control Systems, and Closed-Circuit Television Systems.

GENERAL ELECTRONIC LABS, INC.
VITRO ELECTRONICS, INC.
Director of Engineering & Marketing
VHF Telemetry; Reconnaissance; Surveillance Equipment and Systems. Solid-State Design.
Military, Industry, NASA, Security Agencies.